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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 15:31:36 ON 15 DEC 2004

=> file caplus wpids

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 COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'WPIDS' ENTERED AT 15:31:48 ON 15 DEC 2004
 COPYRIGHT (C) 2004 THE THOMSON CORPORATION

=> s alkylphenol amine

L1 110 ALKYLPHENOL AMINE

=> s l1 and (emulsion or microemulsion or emulsified)

L2 3 L1 AND (EMULSION OR MICROEMULSION OR EMULSIFIED)

=> d l2 all

L2 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
AN 1983:91204 CAPLUS	
DN 98:91204	
ED Entered STN: 12 May 1984	

h eb c g cg b cg

eb

TI **Emulsion** increasing adhesion of shoe soles to floors
 IN Vyskocil, Ivan; Hrdina, Daniel; Paulovic, Milan
 PA Czech.
 SO Czech., 2 pp.
 CODEN: CZXXA9
 DT Patent
 LA Slovak
 IC C09D003-40
 CC 42-11 (Coatings, Inks, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	<u>CS 191662</u>	B	19790731	<u>CS 1977-2300</u>	19770407
PRAI	<u>CS 1977-2300</u>	A	19770407		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
<u>CS 191662</u>	IC	C09D003-40

AB Slipperiness of floors is prevented by application of an aq. **emulsion** contg. 3-10% tall-oil rosin and 5-10% nonionic emulsifiers of HLB value 8-18 based on ethoxylated fatty acids, alcs., **alkylphenols**, **amines**, or esters. A typical **emulsion** comprised tall-oil rosin 70, Slovasol EL (castor oil oxyethylated with 20 mol oxirane) 15, and Slovasol A [9004-96-0] (oleic acid oxyethylated with 6 mol oxirane) 45 g/L.

ST floor slipperiness tall oil rosin; ethoxylated fatty acid floor slipperiness; alc ethyloxylated floor slipperiness prevention; castor oil ethoxylated floor slipperiness prevention; oleic acid ethoxylated floor slipperiness prevention

IT Tall-oil rosin
 RL: USES (Uses)
 (**emulsions**, for floor slipperiness prevention)

IT Castor oil
 RL: USES (Uses)
 (ethyoxylated, emulsifiers, for tall-oil rosin **emulsion** manuf. for floor slipperiness prevention)

IT Tall oil
 RL: USES (Uses)
 (ethyoxylated, emulsifiers, for tall-oil rosin **emulsion** manuf., for floor slipperiness prevention)

IT Floors
 (slipperiness of, prevention of, tall-oil rosin **emulsions** for)

IT Alcohols, compounds
 RL: USES (Uses)
 (fatty, ethyoxylated, emulsifiers, for tall-oil rosin **emulsion** manuf., for floor slipperiness prevention)

IT Emulsifying agents
 (nonionic, ethyoxylated acids and alcs., for tall-oil resin **emulsion**, for floor slipperiness prevention)

IT 9002-92-0 9004-96-0 25322-68-3D, ester and ether derivs
 RL: USES (Uses)
 (emulsifiers, for tall-oil rosin **emulsion** manuf., for floor slipperiness prevention)

=> d 12 2-3 all

L2 ANSWER 2 OF 3 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 1993-313497 [40] WPIDS

DNN N1993-241413 DNC C1993-139255

TI Ink for jet printer providing images of high fastness to light and water - consists of dispersed micronised pigment comprising continuous and

h

eb c

g cg b

cg

eb

discontinuous liq. phases.

DC A97 E19 G02 T04

IN ARGENTERO, M; SOUDAZ, A M

PA (OLIT) OLIVETTI & CO SPA

CYC 7

PI EP 564147 A1 19931006 (199340)* EN 6 C09D011-00
R: DE FR GB NL

JP 06025574 A 19940201 (199409) 4 C09D011-00

US 5358555 A 19941025 (199442) 3 C09D011-02

IT 1259375 B 19960312 (199638) C09D000-00

EP 564147 B1 19980513 (199823) EN 8 C09D011-00
R: DE FR GB NL

DE 69318465 E 19980618 (199830) C09D011-00

ADT EP 564147 A1 EP 1993-302201 19930323; JP 06025574 A JP 1993-72071
19930330; US 5358555 A US 1993-40252 19930330; IT 1259375 B IT 1992-T0289
19920331; EP 564147 B1 EP 1993-302201 19930323; DE 69318465 E DE
1993-618465 19930323, EP 1993-302201 19930323

FDT DE 69318465 E Based on EP 564147

PRAI IT 1992-T0289 19920331

REP DE 4211262; EP 249685; US 4692188; US 5047084

IC C09D011-02
ICM C09D000-00; C09D011-00; C09D011-02

AB EP 564147 A UPAB: 19931129

Pigmented ink for jet printers is a microdisperse 3- phase suspension comprising a discontinuous liq. phase (dtp), a continuous liq. phase (CLP) and a solid phase. Also new is a similar ink comprising hydrophobic and hydrophilic phases; a surfactant system; a biocide and an antioxidant.

Pref. the solid phase is a pigment dispersed in DLP, which can be either hydrophilic or hydrophilic. The DLP is 2-30(3-10) wt.% of the ink which has viscosity 1-10 mPa.s.

The surfactant system consists of an emulsifier (e.g. triethanolamine oleate or Na dodecyl sulphate); a co-emulsifier and a third surfactant as stabiliser (e.g. an ethoxylated **alkylphenol**, **amine**, alcohol or fatty acid; or an opt. ethoxylated ester of sorbitol).

USE/ADVANTAGE - Ink is useful in bubble and thermal jet printer. It provides images of excellent fastness to water and light (i.e. they are indelible) and show very low tendency to produce microprecipitates.

Dwg.0/0

FS CPI EPI

FA AB; DCN

MC CPI: A12-W07D; E07-A02D; E07-D02; E10-A09A; E10-B02E; E10-B04D; E10-C04L;
E10-E02E; E10-E03; E10-E04H; E10-E04M1; G02-A04A
EPI: T04-G02C

L2 ANSWER 3 OF 3 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 1980-82886C [47] WPIDS

TI Cleaning compsns. contg. petroleum distillate and surfactant - for cleaning hands, machinery, textiles, etc..

DC D25

PA (BARN-I) BARNES R I

CYC 4

PI DE 3016707 A 19801113 (198047)*
GB 2049722 A 19801230 (198101)
FR 2456137 A 19810109 (198109)
JP 56004700 A 19810119 (198111)

PRAI GB 1979-15743 19790505; GB 1979-21370 19790619;
GB 1980-12335 19800415

IC C11D003-16; C11D007-06

AB DE 3016707 A UPAB: 19930902

Cleaning compsns. comprise ≥ 1 petroleum distillate and ≥ 1 surfactant, pref. in the form of an **emulsion** with a gel-like consistency. Petroleum distillate can be a light mineral oil, a solvent, a hydrocarbon or a satd.

or unsatd. vegetable or mineral oil (sic), pref. kerosene. The surfactant can be ionic or nonionic, pref. a polyalkoxylated **alkylphenol, amine** or alcohol, esp. polyoxyethylated octylphenol. Compsns. are non-acidic, non-alkaline and non-abrasive, and can be used to remove grease, soot, dirt, paint, etc., from hands, machinery, textiles and other surfaces.

FS CPI
FA AB
MC CPI: D11-A; D11-B16

=> d his

(FILE 'HOME' ENTERED AT 15:31:36 ON 15 DEC 2004)

FILE 'CAPLUS, WPIDS' ENTERED AT 15:31:48 ON 15 DEC 2004

L1 110 S ALKYLPHENOL AMINE
L2 3 S L1 AND (EMULSION OR MICROEMULSION OR EMULSIFIED)

=> s l1 and mannich

L3 6 L1 AND MANNICH

=> d l3 1-6 all

L3 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
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AN 2003:678922 CAPLUS
DN 139:216749
ED Entered STN: 29 Aug 2003
TI Amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents
IN MacDuff, Malcolm G. J.; Chadwick, Richard C.
PA The Lubrizol Corporation, USA
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C10L001-22
ICS C10L010-00
CC 51-7 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
<u>WO 2003070861</u>	A2	20030828	<u>WO 2003-US4722</u>	20030218
<u>WO 2003070861</u>	A3	20040219		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR			
<u>EP 1478717</u>	A2	20041124	<u>EP 2003-709136</u>	20030218
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
<u>PRAI US 2002-357900P</u>	P	20020219		
<u>WO 2003-US4722</u>	W	20030218		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
<u>WO 2003070861</u>	ICM	C10L001-22
	ICS	C10L010-00

- AB Gasoline deposit inhibitors consist of: (1) a **Mannich** reaction product of a hydrocarbyl-substituted phenol with an aldehyde and an amine, and (2) a polyether amine of general structure $RO(AO)mR_1nR_2R_3$, in which R = C8-30-hydrocarbyl, A = C2-6-alkylene, m = 1-50, R1 = C2-6-alkylene; and R2 and R3 = H, hydrocarbyl, or $-[R_4N(R_5)]_nR_6$ (R4 = C2-6-alkylene; R5 and R6 = H or hydrocarbyl; and n = 1-7). Suitable **Mannich** reaction products are prepd. from an alkylphenol (esp. a polyisobutylene-phenol), formaldehyde, and ethylenediamine or dimethylamine. The additives can be added as a bulk treatment to the fuel (at 100-1000 wt. ppm) or as an aftermarket treatment to the fuel (at 1000-10,000 wt. ppm), in an engine operating under a clean-up cycle at engine speeds of ≥ 3000 rpm.
- ST gasoline deposit inhibitor detergent; **Mannich** base polyether amine gasoline deposit inhibitor
- IT **Mannich** bases
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (additives; amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents)
- IT Polyoxyalkylenes, uses
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (amine- and alkyl-terminated; amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents)
- IT Detergents
 (deposit inhibitors-detergents, as gasoline additives; amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents)
- IT Gasoline additives
 (deposit inhibitors-detergents; amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents)
- IT Gasoline additives
 (deposit inhibitors; amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents)
- IT Aldehydes, uses
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (reaction products, with amines and **alkylphenols**; amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents)
- IT 50-00-0DP, Formaldehyde, reaction products with amines and polyisobutenylphenols 95-48-7DP, o-Cresol, polyisobutenyl derivs., reaction products with formaldehyde and ethylenediamine 107-15-3DP, Ethylenediamine, reaction products with formaldehyde and polyisobutenylphenols 108-95-2DP, Phenol, polyisobutenyl derivs., reaction products with formaldehyde and ethylenediamine (or dimethylamine) 124-40-3DP, Dimethylamine, reaction products with formaldehyde and polyisobutenylphenols
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (**Mannich** base detergents; amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents)
- IT 325149-05-1P 587874-89-3P 587874-90-6DP, α -C8-30-hydrocarbyl ethers 587874-91-7DP, α -C8-30-hydrocarbyl ethers
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (detergents; amine-terminated polybutylene oxides and **Mannich** bases as gasoline deposit inhibitors and detergents)
- IT 291542-92-2P, Poly[oxy(ethyl-1,2-ethanediyl)], . α .-tridecyl-. ω .-hydroxy-
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis and acrylonitrile reaction with; amine-terminated polybutylene oxides and Mannich bases as gasoline deposit inhibitors and detergents)

IT 587874-92-8P 587875-16-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis and hydrogenation of; amine-terminated polybutylene oxides and Mannich bases as gasoline deposit inhibitors and detergents)

L3 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
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AN 1985:598427 CAPLUS

DN 103:198427

ED Entered STN: 14 Dec 1985

TI Middle distillate containing storage stability additive

IN Sung, Rodney L.; Karol, Thomas J.

PA Texaco Inc. , USA

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C10L001-22

NCL 044073000

CC 51-9 (Fossil Fuels, Derivatives, and Related Products)

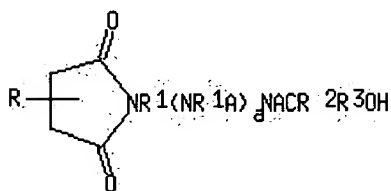
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4533361	A	19850806	US 1984-658933	19841009
US 1984-658933		19841009		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 4533361	ICM	C10L001-22
	NCL	044073000

GI



AB The storage stability of middle distillates, such as diesel fuel, was improved by the addn. of acylated condensates of an alkenylsuccinic anhydride and a Mannich base [I, where R is an unsatd. radical (from a polyolefin), R1 is a divalent org. radical, R2 is H, alkyl, aryl, cycloalkyl, or combination, R3 is arylene, A is the same as R1 or an acyl group, and a = 1-20]. Thus, heating of 2,6-di-tert-butylphenol 0.167, HCHO 0.25, polyisobutenylsuccinic anhydride 0.185, oxalic acid 0.527, and pentaethylenehexamine 0.167 mol in the presence of diluent oil and a silicone antifoaming agent at 110-160° for ~9 h gave an additive which, at 25 lb/1000 bbl diesel oil concn., decreased its sedimentation rating (Potential Deposit Test) to 1.

ST antisedimentation additive diesel fuel; stabilizer storage middle petroleum distillate

IT Fuels, diesel

(storage of, antisedimentation additives for)

IT Petroleum products
 (middle distillates, storage of, antisedimentation additives for)
 IT 50-00-0D, condensation products with alkenylsuccinic anhydride,
 alkylphenols, and amines, acylated 57-13-6D, condensation products with
 alkenylsuccinic anhydride, alkylphenols, formaldehyde, and polyamines
79-14-1D, condensation products with alkenylsuccinic anhydride,
alkylphenols, amines, and formaldehyde 108-30-5D,
 polyisobutenyl derivs., condensation products with alkylphenols and amines
 and formaldehyde, acylated 112-57-2D, condensation products with
 alkenylsuccinic anhydride, alkylphenols, and formaldehyde, acylated
144-62-7D, condensation products with alkenylsuccinic anhydride,
alkylphenols, amines, and formaldehyde 4067-16-7D,
 condensation products with alkenylsuccinic anhydride, alkylphenols, and
 formaldehyde, acylated 26746-38-3D, condensation products with
 alkenylsuccinic anhydride, amines, and formaldehyde, acylated
 RL: USES (Uses)
 (antisedimentation additives, for storage of petroleum middle
 distillates)

L3 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

	Full Text	Citing References
AN	1983:490697	CAPLUS
DN	99:90697	
ED	Entered STN: 12 May 1984	
TI	Production of ashless additives from technical alkylsalicylic acids	
AU	Korotushenko, T. P.; Sukhoverkhov, V. D.; Gordash, Yu. T.; Grechko, A. N.	
CS	VNIIPKneftekhim., Kiev, USSR	
SO	Neftepererabotka i Neftekhimiya (Kiev) (1983), 24, 22-5 CODEN: NEFNBY; ISSN: 0548-1406	
DT	Journal	
LA	Russian	
CC	51-8 (Fossil Fuels, Derivatives, and Related Products)	
AB	Condensation of diethylenetriamine or polyethylenepolyamine with a 54.2:45.8 mixt. of tech. alkylsalicylic acids and alkylphenols at 180° (optimum temp.) gave the corresponding amide-alkylphenol mixt. This mixt. was treated with an aq. HCHO soln. at 90-110° to give Mannich bases for use as lubricating oil additives. The diethylenetriamine-alkylsalicylic acid-alkylphenol-HCHO condensation product had good detergent and corrosion-inhibiting properties.	
ST	lubricating oil detergent Mannich base; corrosion inhibitor Mannich base lubricant	
IT	Mannich bases RL: USES (Uses) (corrosion inhibitors-detergents, for lubricating oils)	
IT	Lubricating oil additives (corrosion inhibitors, Mannich bases as)	
IT	Amines, compounds RL: USES (Uses) (polyethylenepoly-, reaction products with alkylphenols and alkylsalicylic acids and formaldehyde, corrosion inhibitors-detergents, for lubricating oils)	
IT	<u>69-72-7D</u> , alkyl derivs., reaction products with alkylphenols, amines, and formaldehyde <u>108-95-2D</u> , alkyl derivs., reaction products with alkylsalicylamides and formaldehyde <u>111-40-0D</u> , reaction products with alkylphenols and alkylsalicylic acids and formaldehydes RL: USES (Uses) (corrosion inhibitors-detergents, for lubricating oils)	

L3 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

	Full Text	Citing References
AN	1978:107582	CAPLUS
DN	88:107582	

ED Entered STN: 12 May 1984
 TI Reaction of phosphorus pentasulfide with hydroxyl-containing compounds in relation to the synthesis of additive INKhP-21
 AU Seleznenko, L. V.
 CS Vses. Nauchno-Issled. Proektno-Konstr. Inst. Neftepererab. Neftekhim. Prom., Kiev, USSR
 SO Neftepererabotka i Neftekhimiya (Kiev) (1977), 15, 35-9
 CODEN: NEFNBY; ISSN: 0548-1406
 DT Journal; General Review
 LA Russian
 CC 51-0 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 22
 AB A review, with 24 refs., of the mechanism and kinetics of reaction of P2S5 with a **Mannich** base obtained by condensation of **alkylphenols**, **amines**, and HCHO. This reaction is basic in the prepn. of the antioxidant INKhP 21 [12798-12-8] for lubricating oils.
 ST review mechanism phosphorus pentasulfide; **Mannich** base prepn kinetics review; antioxidant lubricating oil prepn review
 IT Kinetics, reaction
 (of phosphosulfurization of **Mannich** bases, in prepn. of lubricating oil additives)
 IT **Mannich** bases
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phosphorus sulfide in prepn. of lubricating oil additives, kinetics and mechanism of)
 IT Lubricating oil additives
 (antioxidants, barium salts of phosphosulfurized phenolic resins, prepn. of, phosphosulfurization in)
 IT Phenolic resins, compounds
 (phosphosulfurized, barium salts, lubricating oil antioxidants, prepn. of, phosphosulfurization in)
 IT 108-95-2DP, alkyl derivs., polymer with ammonia and formaldehyde, phosphosulfurized, barium salts 12798-12-8P
 RL: PREP (Preparation)
 (lubricating oil antioxidants, prepn. of, phosphosulfurization in)
 IT 1314-80-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with **Mannich** bases in prepn. of lubricating oil additives, kinetics and mechanism of)

L3 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
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AN 1976:601747 CAPLUS
 DN 85:201747
 ED Entered STN: 12 May 1984
 TI Use of thin-layer chromatography for monitoring the condensation stages of alkylphenols with formaldehyde and amines
 AU Sopkina, A. K.; Marusyak, O. V.; Gordash, Yu. T.; Zhurba, A. S.
 CS Vses. Nauchno-Issled. Proektn. Inst. Kompleksn. Neftekhim. Protssessov, Leningrad, USSR
 SO Khimiya i Tekhnologiya Topliv i Masel (1976), (5), 53-5
 CODEN: KTPMAG; ISSN: 0023-1169
 DT Journal
 LA Russian
 CC 80-4 (Organic Analytical Chemistry)
 AB The products of condensation of alkylphenols with formaldehyde and amines were analyzed by thin-layer chromatog. on Al2O3 by using C6H6-MeOH (9:1) as developing solvent, iodine vapor as detection reagent, and 5-20 µg sample in C6H6 soln. The anal. took 30-40 min. The end product was a **Mannich** base (I). The chromatogram obtained during condensation of C11-13 2,6-dialkylphenol (II) with HCHO and an amine showed that a small amt. of I was formed by conversion of monoalkylphenols present in the original dialkylphenol and not from II. Similarly, the chromatogram

obtained when controlling the removal of unreacted diethylenetriamine (III) from the condensation products indicated the end of the washing procedure by the disappearance of the spot of III. The method was simple and rather reliable for qual. control, giving also semiquant. data.

ST thin layer chromatog alkylphenol condensation; formaldehyde condensation alkylphenol analysis; amine condensation alkylphenol analysis

IT Amines, reactions
RL: RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
(condensation of, with alkylphenols, thin-layer chromatog. monitoring of)

IT Chromatography, thin-layer
(of condensation products of **alkylphenols amines** and formaldehyde)

IT 50-00-0, reactions
RL: RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
(condensation of, with alkylphenols, thin-layer chromatog. monitoring of)

IT 108-95-2D, Phenol, alkyl derivs.
RL: ANST (Analytical study)
(condensation of, with amines and formaldehyde, thin-layer chromatog. monitoring of)

L3 ANSWER 6 OF 6 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 1979-21913B [11] WPIDS

TI **Mannich** reaction prods. useful as lubricating oil detergent additives - prepd. from carboxylic acid-substd. alkylphenol, an amine and formaldehyde.

DC A97 H07

IN KARLL, R E; LEE, R J

PA (STAD) STANDARD OIL CO INDIANA

CYC 1

PI US 4142980 A 19790306 (197911)*

PRAI US 1977-831732 19770909; US 1978-945316 19780925

IC C07C101-72; C10M001-32; C10M003-26; C10M005-20

AB US 4142980 A UPAB: 19930901

An oil soluble cpd. (I) is claimed which is the **Mannich** reaction prod. of (a) the reaction prod. (II) of a (50-20000C alkyl) phenol and a 2-100C aliphatic unsatd. carboxylic acid, (b) a <=100C amine, having >=1 reactive N of formula H₂N-(AlNH)xH (IIIe (where A is 2-6C alkylene and x is 1-10), and (c) formaldehyde or a formaldehyde-affording reactant (IV), the ratio (II):(III):(IV) being 1:0.7-1.0:1.5-2.

(I) are very effective in small amts. (0.05-5 wt.%, pref. 0.1-2 wt.%) as detergent/dispersant additives for lubricating oils.

FS CPI

FA AB

MC CPI: A10-E03; A10-E19; A12-W02A; H07-G03

=> d his

(FILE 'HOME' ENTERED AT 15:31:36 ON 15 DEC 2004)

FILE 'CAPLUS, WPIDS' ENTERED AT 15:31:48 ON 15 DEC 2004

L1 110 S ALKYLPHENOL AMINE

L2 3 S L1 AND (EMULSION OR MICROEMULSION OR EMULSIFIED)

L3 6 S L1 AND MANNICH

=> s mannich and (emulsion or microemulsion or emulsified)

L4 149 MANNICH AND (EMULSION OR MICROEMULSION OR EMULSIFIED)

=> s 14 and (fuel or gasoline or diesel)

L5 10 L4 AND (FUEL OR GASOLINE OR DIESEL)

h ebc g cg b cg

eb

=> d 15 1-10 all

L5 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
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AN 2004:3298 CAPLUS
 DN 140:62092
 ED Entered STN: 04 Jan 2004
 TI Method of improving the compatibility of a **fuel** additive composition containing a **Mannich** condensation product
 IN Carabell, Kevin D.; Gray, James A.
 PA Chevron Oronite Co., LLC, USA
 SO U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C10L001-18
 ICS C10L001-24; C10L001-22
 NCL 044330000
 CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 21, 27

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	<u>US 2004000089</u>	A1	20040101	<u>US 2002-175143</u>	20020618
	<u>US 6733551</u>	B2	20040511		
	<u>EP 1375629</u>	A2	20040102	<u>EP 2003-252535</u>	20030423
	<u>EP 1375629</u>	A3	20040114		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	<u>CA 2428909</u>	AA	20031218	<u>CA 2003-2428909</u>	20030516
PRAI	<u>US 2002-175143</u>	A	20020618		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
<u>US 2004000089</u>	ICM	C10L001-18
	ICS	C10L001-24; C10L001-22
	NCL	044330000
<u>US 2004000089</u>	ECLA	C10L001/14B; C10L001/22W; C10L010/00; C10M159/16; C10M167/00
<u>EP 1375629</u>	ECLA	C10L001/14B; C10L001/22W; C10L010/00; C10M159/16; C10M167/00

OS MARPAT 140:62092

AB A method of improving the compatibility of a **fuel** additive compn. is comprised of blending together the following components: (a) a **Mannich** condensation product of (1) a high mol. wt. alkyl-substituted hydroxyarom. compd., (2) an amine having the formula: 1 wherein A is CH or nitrogen, R1, R2, R3 are independently hydrogen or lower alkyl of C1-C6 and each R2 and R3 is independently selected in each -CR2R3 - unit, and x is an integer from 1 to ~6; and (3) an aldehyde, wherein the resp. molar ratio of reactants (1), (2), and (3) is 1:0.1-2:0.1-2; (b) a hydrocarbyl-terminated poly(oxyalkylene) mono-ol; (c) a carboxylic acid as represented by the formula: R4(COOH)y, wherein R4 represents a C2 ~50 hydrocarbyl group, and y represents an integer of 1 to ~4; and (d) an anhydride selected from the group consisting of succinic, glutaric, phthalic, and alkyl anhydrides.

ST **fuel** additive **Mannich** condensation carboxylic acid anhydride polyoxyalkylene ether

IT Carboxylic acids, uses

RL: MOA (Modifier or additive use); USES (Uses)

(C3-C51; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)

- IT Carboxylic acids, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (C6-C54 tetracarboxylic acids; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Alcohols, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (alkoxylated; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Polyoxyalkylenes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (alkyl group-terminated, propoxylated and butoxylated; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Phenols, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (alkyl, C21-C356 alkyl, **Mannich** condensation reaction products with aldehydes and amines; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Aromatic hydrocarbons, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (alkyl, light alkylate; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Corrosion inhibitors
 (carboxylic acid type; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT **Fuel** oil additives
 (compatibilizers; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT **Emulsions**
 (demulsifiers; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Phenols, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (derivs.; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Amines, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (diamines; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Carboxylic acids, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (dicarboxylic, C4-C52; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Polyoxyalkylenes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (ethers, hydrocarbyl-terminated mono-ols; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Polyoxyalkylenes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (ethers, with C7-C30 alkyl phenols; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT **Fuel** oil additives

- (method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Anhydrides
RL: MOA (Modifier or additive use); USES (Uses)
(method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT **Mannich** bases
RL: MOA (Modifier or additive use); USES (Uses)
(phenolic, condensation products of alkylphenols with aldehydes with piperazine-based triamines or piperidine-based diamines; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT **Mannich** bases
RL: MOA (Modifier or additive use); PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(phenolic, condensation products of polyisobutenylphenol with paraformaldehyde and 1-(2-aminoethyl)piperazine; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Phenols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(polypropyl and polyisobutyl derivs., **Mannich** condensation reaction products with aldehydes and amines; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Sedimentation (separation)
(redn. of; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Stability
(to air oxidn.; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(triamines; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(tricarboxylic acids, C5-C53; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT 7732-18-5, Water, processes
RL: FMU (Formation, unclassified); REM (Removal or disposal); FORM (Formation, nonpreparative); PROC (Process)
(method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)
- IT 50-00-0D, Formaldehyde, condensation reaction products with alkylphenols and piperidine- and piperazine- based alkylamine and dialkylamine derivs. 85-44-9, Phthalic anhydride 108-30-5, Succinic anhydride, uses 108-30-5D, Succinic anhydride, derivs. 108-55-4, Glutaric anhydride 110-85-0D, Piperazine, alkylaminoalkyl derivs., **Mannich** condensation reaction products with alkylphenols and aldehydes 110-89-4D, Piperidine, alkylaminoalkyl derivs., **Mannich** condensation reaction products with alkylphenols and aldehydes 112-80-1, Oleic acid, uses 140-31-8D, 1-Piperazineethanamine, condensation reaction products with alkylphenols and aldehydes 140-31-8D, 1-Piperazineethanamine, α and/or β - mono- and poly- Me and Et derivs. condensation reaction products with alkylphenols and aldehydes, 26544-38-7, Tetrapropenylsuccinic anhydride 30525-89-4D,

Paraformaldehyde, condensation reaction products with alkylphenols and piperidine- and piperazine- based alkylamine and dialkylamine derivs. 76025-62-2D, 4-Piperidineethanamine, condensation reaction products with alkylphenols and aldehydes 76025-62-2D, 4-Piperidineethanamine, α and/or β - mono- and poly- Me and Et derivs., condensation reaction products with alkylphenols and aldehydes
 RL: MOA (Modifier or additive use); USES (Uses)

(method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)

IT 108-95-2D, Phenol, Polyisobutenyl derivs. 140-31-8, 1-(2-Aminoethyl)piperazine

RL: RCT (Reactant); RACT (Reactant or reagent)

(method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)

IT 29011-16-3, Polypropylene glycol monopropyl ether

RL: MOA (Modifier or additive use); USES (Uses)

(synthetic carrier fluid; method of improving the compatibility of **fuel** additive compn. contg. **Mannich** condensation product and carboxylic acids)

L5 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
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AN 2002:143100 CAPLUS

DN 136:202883

ED Entered STN: 22 Feb 2002

TI Amino alkylphenol emulsifiers for an aqueous hydrocarbon **fuel**

IN Filippini, Brian B.; Forsberg, John W.; Steckel, Thomas F.; Moreton, David J.; Mcatee, Rodney J.

PA USA

SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 483,481.

CODEN: USXXCO

DT Patent

LA English

IC ICM C10L001-32

NCL 044301000

CC 51-7 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 13

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	<u>US 2002020106</u>	A1	20020221	<u>US 2001-892073</u>	20010626
	<u>US 6368366</u>	B1	20020409	<u>US 1999-349268</u>	19990707
	<u>US 6368367</u>	B1	20020409	<u>US 1999-390925</u>	19990907
	<u>US 6383237</u>	B1	20020507	<u>US 2000-483481</u>	20000114
	<u>US 2001020344</u>	A1	20010913	<u>US 2001-755577</u>	20010105
	<u>WO 2003002693</u>	A2	20030109	<u>WO 2002-US18405</u>	20020611
	<u>WO 2003002693</u>	A3	20030821		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR

PRAI	<u>US 1999-349268</u>	A2	19990707
	<u>US 1999-390925</u>	A2	19990907
	<u>US 2000-483481</u>	A2	20000114
	<u>US 2001-755577</u>	A2	20010105
	<u>US 2001-892073</u>	A	20010626

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

h eb c g cg b cg

eb

US 2002020106 ICM C10L001-32
 NCL 044301000

US 2002020106 ECLA C10L001/32D
 US 6368366 ECLA C10L001/32D
 US 6368367 ECLA C10L001/32D
 US 6383237 ECLA C10L001/32D
 US 2001020344 ECLA C10L001/32D

OS MARPAT 136:202883

AB Novel aminoalkylphenol emulsifiers are used for making aq. hydrocarbon **fuel emulsions** suitable for engines. The emulsifier comprises (a) an aminoalkylphenol which is made by reacting alkylphenol (e.g., polypropylphenol, polybutylphenol, poly(isopropanol)phenol, polyamylphenol, tetrapropylphenol, or substituted phenols), an aldehyde (e.g., formaldehyde, acetaldehyde, or aldol) and an amine (e.g., alkanolamines, polyalkylene amines, etc.) resulting in an amino alkyl phenol.

ST **fuel** water emulsifier

IT Emulsifying agents
 Mannich reaction
 (amino alkylphenol emulsifiers for an aq. hydrocarbon **fuel**)

IT **Fuel** additives
 (emulsifiers; amino alkylphenol emulsifiers for an aq. hydrocarbon **fuel**)

IT **Fuels**
 (oil-in-water; amino alkylphenol emulsifiers for an aq. hydrocarbon **fuel**)

IT 78-90-0, Propylene diamine 106-50-3, p-Phenylene diamine, reactions 108-95-2D, Phenol, isobutylene derivs., polymers 109-55-7 109-97-7, Pyrrole 110-89-4, Piperidine, reactions 110-91-8, Morpholine, reactions 111-40-0, Diethylenetriamine 111-42-2, Diethanolamine, reactions 112-24-3, Triethylene tetramine 112-57-2, Tetraethylene pentamine 120-72-9, Indole, reactions 123-00-2, 4-Morpholinepropanamine 123-75-1, Pyrrolidine, reactions 123-90-0, Thiomorpholine 135-67-1, Phenoxazine 288-13-1, Pyrazole 288-32-4, Imidazole, reactions 289-95-2D, Pyrimidine, N-alkyl amine derivs. 504-70-1, Pyrazolidine 504-74-5, Imidazolidine 504-74-5D, Imidazolidine, N-alkyl amine derivs. 6484-52-2, Ammonium nitrate, reactions 28299-33-4, Imidazoline 28350-87-0, Pyrroline 36118-45-3, Pyrazoline 36354-95-7, N-Acetyl tetraethylenepentamine 38096-30-9, Diamino naphthalene 58437-91-5D, reaction products with alkylamines 301356-20-7 400771-77-9 400771-78-0

RL: RCT (Reactant); RACT (Reactant or reagent)
 (amino alkylphenol emulsifiers for an aq. hydrocarbon **fuel**)

L5 ANSWER 3 OF 10 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 2004-591760 [57] WPIDS

CR 2004-088866 [09]

DNN N2004-467980 DNC C2004-215146

TI Reduction of engine wear during operation of internal combustion engine involves recirculating exhaust gas from engine to intake air supply of engine; and operating engine using water-blended **fuel** composition.

DC A18 A88 A95 Q52 Q53

IN DUNCAN, D A; LANGER, D A; SHAH, M P; ZALAR, F V

PA (DUNC-I) DUNCAN D A; (LANG-I) LANGER D A; (SHAH-I) SHAH M P; (ZALA-I) ZALAR F V; (LUBR) LUBRIZOL CORP

CYC 1

PI US 2004139931 A1 20040722 (200457)* 16 F02M025-07
 US 6823822 B2 20041130 (200479) F02B047-00

ADT US 2004139931 A1 Div ex US 2002-90500 20020304, US 2004-754269 20040109;
 US 6823822 B2 Div ex US 2002-90500 20020304, US 2004-754269 20040109

FDT US 6823822 B2 Div ex US 6748905

PRAI US 2002-90500 20020304; US 2004-754269 20040109

IC ICM F02B047-00; F02M025-07

ICS F02B047-08

AB US2004139931 A UPAB: 20041208

NOVELTY - Reduction of engine wear in the operation of an internal combustion engine involves: recirculating at least part of the exhaust gas from the engine to the intake air supply of the engine; and operating the engine using a water-blended **fuel** composition, which is obtained by combining a normally liquid hydrocarbon **fuel**, water and at least one surfactant.

DETAILED DESCRIPTION - Reduction of engine wear in the operation of an internal combustion engine involves:

(A) recirculating at least part of the exhaust gas from the engine to the intake air supply of the engine; and

(B) operating the engine using a water-blended **fuel** composition (C1).

(C1) Is obtained by combining a normally liquid hydrocarbon **fuel** (preferably **diesel fuel**), water and at least one surfactant. The surfactant comprises at least one product (P1), at least one product (P2), at least one **mannich** reaction product (P3) and/or at least one ionic or a nonionic compound (P4) having a hydrophilic-lipophilic balance of 1 - 40. (P1) Is made from the reaction of an acylating agent and ammonia, amine, hydroxyamine and/or alcohol. (P2) Is derived from a polycarboxylic acylating agent (A1), a copolymer (A2), and linking compound (A3). (A2) Is derived from at least one of olefin monomer (preferably alpha-olefin) and alpha, beta unsaturated carboxylic acid (preferably maleic anhydride) or its derivative. (A3) Has at least two (preferably at least one) of primary amino, secondary amino and hydroxy group (preferably ethylene polyamine). (P3) Is derived from hydroxy aromatic compound, aldehyde or ketone, and amine containing at least one primary or secondary amino group.

USE - For reducing engine wear comprising piston ring wear reduction or cylinder linear wear reduction in the operation of compression ignition engine equipped with exhaust gas recirculation system (claimed).

ADVANTAGE - The process reduces the generation of nitric oxide and particulate emission in the exhaust of the engine.

Dwg.0/4

FS CPI GMPI

FA AB

MC CPI: A10-E01; A12-T03B

L5 ANSWER 4 OF 10 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 2004-224195 [21] WPIDS

CR 2004-063955 [07]; 2004-224194 [21]

DNC C2004-088421

TI Friction modifier for use in **fuel**, e.g. **gasoline** for internal combustion engine, comprises alkoxylated amine salt or etheramine salt of saturated carboxylic acid.

DC A95 D22 E19 H06

IN ARADI, A A; COLUCCI, W J; MALFER, D J; SCHWAB, S D

PA (ETHY) ETHYL CORP; (ARAD-I) ARADI A A; (COLU-I) COLUCCI W J; (MALF-I) MALFER D J; (SCHW-I) SCHWAB S D

CYC 34

PI US 2004010967 A1 20040122 (200421)* 11 C10L001-22

EP 1471131 A1 20041027 (200471) EN C10L001-22

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV
MC MK NL PT RO SE SI SK TR

CA 2436194 A1 20041022 (200474) EN C10L001-22

JP 2004323821 A 20041118 (200476) 27 C10M129-32

ADT US 2004010967 A1 CIP of US 2002-128529 20020424, US 2003-421006 20030422;
EP 1471131 A1 EP 2003-17294 20030730; CA 2436194 A1 CA 2003-2436194
20030729; JP 2004323821 A JP 2003-292448 20030812

PRAI US 2003-421006 20030422; US 2002-128529 20020424

IC ICM C10L001-22; C10M129-32

ICS C10L001-14; C10L001-18; C10M129-34; C10M129-40; C10M129-42;
C10M129-44; C10M133-06; C10M133-08; C10M141-06

AB US2004010967 A UPAB: 20041125

NOVELTY - A friction modifier comprises alkoxyated amine salt or etheramine salt of saturated carboxylic acid.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) an additive concentrate composition comprising saturated carboxylic acid salt of alkoxyated amine, and detergent package containing detergent and carrier fluid;

(b) a **fuel** composition comprising combustible **fuel** and additive concentrate (50-2500 ppm);

(c) a method of combusting a **fuel** by combining a **fuel** which is combustible in a **gasoline** engine having intake valves with a **fuel** additive concentrate; and

(d) a method of increasing the **fuel** efficiency in a **gasoline** combustion engine by combusting a **gasoline fuel** comprising **fuel** boiling in the **gasoline** boiling range, and saturated carboxylic acid salt of alkoxyated amine or etheramine.

USE - For use in **fuel**, e.g. **gasoline** for internal combustion engine (claimed).

ADVANTAGE - The inventive friction modifier enables the formulation of stable additive concentrate that provides benefit in friction loss when incorporated in **fuel**. The additive concentrate increases **fuel** efficiency without increasing the incidence of intake valve deposits in combustion engine.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: A12-T03A; D09-B; E07-D03; E10-B03B; E10-C04L; E10-G02H2; H06-B01;
H06-D06

L5 ANSWER 5 OF 10 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 2004-088866 [09] WPIDS

CR 2004-591760 [57]

DNN N2004-071130 DNC C2004-036193

TI Process to reduce engine wear in internal combustion engine comprises recirculating part of exhaust gas from the engine to intake air supply and operating engine using water-blended **fuel** composition.

DC A14 A17 A25 A95 E19 H06 Q52

IN DUNCAN, D A; LANGER, D A; SHAH, M P; ZALAR, F V

PA (LUBR) LUBRIZOL CORP; (DUNC-I) DUNCAN D A; (LANG-I) LANGER D A; (SHAH-I) SHAH M P; (ZALA-I) ZALAR F V

CYC 99

PI US 2003164147 A1 20030904 (200409)* 16 F02B047-00

WO 2003076783 A2 20030918 (200409) EN F02D021-00

RW: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE
SI SK TR

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM
ZW

AU 2003225593 A1 20030922 (200431) F02D021-00

US 6748905 B2 20040615 (200439) F02B047-00

ADT US 2003164147 A1 US 2002-90500 20020304; WO 2003076783 A2 WO 2003-US5442
20030224; AU 2003225593 A1 AU 2003-225593 20030224; US 6748905 B2 US
2002-90500 20020304

FDT AU 2003225593 A1 Based on WO 2003076783

PRAI US 2002-90500 20020304

IC ICM F02B047-00; F02D021-00

AB US2003164147 A UPAB: 20040907

NOVELTY - Engine wear in the operation of an internal combustion engine is

reduced by recirculating part of exhaust gas from the engine to an intake air supply of the engine; and operating the engine using a water-blended **fuel** composition.

DETAILED DESCRIPTION - Reduction of engine wear in the operation of an internal combustion engine includes recirculating part of exhaust gas from the engine to an intake air supply of the engine; and operating the engine using a water-blended **fuel** composition.

The composition is prepared by combining a normally liquid hydrocarbon **fuel**, water, and surfactant(s).

The surfactant comprises:

(a) product(s) made from the reaction of an acylating agent with ammonia, an amine, a hydroxyamine, an alcohol, or their mixture of two or more;

(b) product(s) derived from a polycarboxylic acylating agent, a copolymer derived from olefin monomer(s) and alpha, beta unsaturated carboxylic acid(s) or their derivatives, and a linking compound;

(c) **Mannich** reaction product(s) derived from a hydroxy aromatic compound, an aldehyde or a ketone, and an amine containing primary or secondary amino group; and/or

(d) ionic or nonionic compound(s) having a hydrophilic-lipophilic balance of 1-40.

The linking compound has two or more primary amino groups, primary amino group(s) and secondary amino group(s), at least two hydroxyl groups, or primary or secondary amino groups and hydroxyl group(s).

USE - For reducing engine wear in the operation of an internal combustion engine, e.g. a compression ignition engine.

ADVANTAGE - The invention effectively reduces engine wear in the operation of the internal combustion engine. It reduces the generation of nitrogen oxides (NOx) and particulate emissions in the exhaust of the engine. It achieves engine wear reduction, e.g. piston ring wear reduction or cylinder liner wear reduction.

DESCRIPTION OF DRAWING(S) - The figure is a plot of percent soot in a lubricant versus test hours for engine tests.

Dwg.1/4

FS CPI GMPI

FA AB; GI; DCN

MC CPI: A12-T04C; E05-G09D; E07-D09C; E10-A09B7; E10-A09B8; E10-B01; E10-B03A; E10-C02; E10-D01D; E10-E02D; E10-E02E1; E10-E02F1; E10-G02; E32-A02; H06-D03

L5 ANSWER 6 OF 10 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 2004-063955 [07] WPIDS

CR 2004-224194 [21]; 2004-224195 [21]

DNC C2004-026269

TI Friction modifier e.g. for **fuels**, particularly **gasolines** for internal combustion engines, comprises saturated carboxylic acid salt of alkylated amine.

DC A95 E16 H06

IN ARADI, A A; MALFER, D J; SCHWAB, S D

PA (ETHY) ETHYL CORP; (ETHY) ETHYL INC; (ARAD-I) ARADI A A; (MALF-I) MALFER D J; (SCHW-I) SCHWAB S D

CYC 35

PI EP 1357170 A2 20031029 (200407)* EN 11 C10L001-22

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV

MC MK NL PT RO SE SI SK TR

CA 2424759 A1 20031024 (200407) EN C10L001-22

JP 2004002817 A 20040108 (200407) 19 C10L001-22

US 2003200697 A1 20031030 (200407) C10L001-18

CN 1453341 A 20031105 (200408) C10L001-10

ADT EP 1357170 A2 EP 2003-7626 20030402; CA 2424759 A1 CA 2003-2424759 20030401; JP 2004002817 A JP 2003-111298 20030416; US 2003200697 A1 US 2002-128529 20020424; CN 1453341 A CN 2003-124017 20030424

PRAI US 2002-128529 20020424

IC ICM C10L001-10; C10L001-18; C10L001-22

ICS C10L001-14; C10L001-32; C10L010-00; C10L010-04; C10M129-32;
C10M129-40; C10M133-06

AB EP 1357170 A UPAB: 20040326

NOVELTY - A friction modifier comprises saturated carboxylic acid salt of alkylated amine.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a **fuel** additive concentrate comprising 0.2-50 wt.% friction modifier comprising branched saturated carboxylic acid salt of mono- or di-alkylated amine, 40-99.8 wt.% detergent package comprising detergent package comprising detergent and carrier, and 0-80 wt.% solvent;

(b) a **fuel** composition comprising a combustible **fuel**, and 50-2500 ppm by weight of additive combination;

(c) a method of preparing a **fuel** comprising combining a **fuel** which is combustible in **gasoline** engine having intake valves with a **fuel** additive concentrate; and

(d) a method of increasing the **fuel** efficiency in a **gasoline** combustion engine comprising combusting in the engine a **gasoline fuel** comprising a major amount of **fuel** boiling in the **gasoline** boiling range, and a minor amount of branched saturated carboxylic acid salt of alkylated amine.

USE - The invention is used in **fuel** additive concentrate for **fuels** (claimed), particularly in **gasolines** for internal combustion engines.

ADVANTAGE - The invention reduces or eliminates deposits and wear in engines, **fuel** pumps and injectors while imparting enhanced **fuel** economy performance.

Dwg.0/0

FS CPI

FA AB; GI; DCN

MC CPI: A12-T03B; E05-S; E10-C04L2; H06-B01; H06-D04; H06-D06

L5 ANSWER 7 OF 10 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 2003-457437 [43] WPIDS

DNN N2003-363752 DNC C2003-121794

TI Production of hydrogen gas involves forming water-blended hydrocarbon feedstock composition comprising hydrocarbon feedstock, water, surfactant and water-soluble salt, and steam reforming the blended feedstock.

DC E19 E36 H04 H06 L03 X16

IN BURRINGTON, J D; GRAHAM, D E; LANGER, D A; MULLAY, J J; YODICE, R

PA (BURR-I) BURRINGTON J D; (GRAH-I) GRAHAM D E; (LANG-I) LANGER D A;

(MULL-I) MULLAY J J; (YODI-I) YODICE R; (LUBR) LUBRIZOL CORP

CYC 99

PI WO 2003040030 A1 20030515 (200343)* EN 63 C01B003-32

RW: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK
TR

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM
ZW

US 2003138373 A1 20030724 (200352) C01B003-24

EP 1441979 A1 20040804 (200451) EN C01B003-32

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC
MK NL PT RO SE SI SK TR

AU 2002343593 A1 20030519 (200464) C01B003-32

ADT WO 2003040030 A1 WO 2002-US34917 20021031; US 2003138373 A1 US 2001-8130
20011105; EP 1441979 A1 EP 2002-780548 20021031, WO 2002-US34917 20021031;
AU 2002343593 A1 AU 2002-343593 20021031

FDT EP 1441979 A1 Based on WO 2003040030; AU 2002343593 A1 Based on WO
2003040030

PRAI US 2001-8130 20011105

IC ICM C01B003-24; C01B003-32

ICS C01B003-34; C01B003-38; C10L001-32

AB WO2003040030 A UPAB: 20030707

NOVELTY - Hydrogen gas is produced by forming a water-blended hydrocarbon feedstock composition comprising a hydrocarbon feedstock, water, surfactant(s) and water-soluble salt(s); and steam reforming the feedstock to convert the composition to a product comprising hydrogen and carbon oxide(s). The steam is mixed with the feedstock composition to form a vaporized mixture at 50-1200 deg. C.

DETAILED DESCRIPTION - Production of hydrogen gas involves:

(i) forming a water-blended hydrocarbon feedstock composition comprising a hydrocarbon feedstock, water, at least one surfactant and at least one water-soluble salt; and

(ii) steam reforming the water blended hydrocarbon feedstock to convert the composition to a product comprising hydrogen and at least one carbon oxide,

The steam is mixed with the feedstock composition to form a vaporized mixture. The temperature of the vaporized mixture is 50-1200 deg. C. The water-blended hydrocarbon feedstock composition is a water-in-oil **emulsion**, an oil-in-water **emulsion** or a micro-**emulsion**. The surfactant comprises:

(a) a product made from the reaction of an acylating agent with ammonia, an amine, an alcohol or a mixture of at least two of these compounds;

(b) a product comprising (i) a polycarboxylic acylating agent and (ii) a copolymer derived from olefin monomer(s) and alpha , beta -unsaturated carboxylic acid(s) or their derivative linking group derived from a compound having at least two prim. amino groups, at least two sec. amino groups, at least one prim. amino group and at least one sec. amino group, at least two hydroxyl groups, or at least one prim. or sec. amino group and at least one hydroxyl group;

(c) an aromatic **Mannich** compound derived from a hydroxy aromatic compound, an aldehyde or a ketone, and an amine containing at least one prim. or sec. amino group;

(d) an ionic or a nonionic compound having a hydrophilic-lipophilic balance of 1-40; or

(e) a mixture of at least two of these four components.

USE - The hydrogen is used for treating a refinery stream or product by hydrocracking, hydrotreating, hydrotreating or hydrodesulfurizing; and for operating a **fuel** cell (both claimed). The hydrogen can also be used in chemical processes including ammonia synthesis from nitrogen (by Haber-Bosch process), aromatic hydrogenation, hydroforming olefinic hydrocarbons to convert them to branched-chain paraffins, preparation of alcohols from synthesis gas, and hydrogenation of fats and oils.

ADVANTAGE - Forming a water-blended hydrocarbon feedstock composition prior to steam reforming improves the efficiency of the steam reforming process and the purity of the hydrogen that is produced. The process provides for lower hydrogen cost due to improved efficiency; lower capital cost or increase in throughput for an existing steam reforming unit due to lower water requirements; lower hydrodesulfurization requirement for the hydrocarbon feedstock; lower carbon monoxide and sulfur impurities for a given condition (level of water and of hydrodesulfurization); and more efficient operation and longer equipment life for **fuel** cell applications e.g. those based on proton exchange membranes. The process allows heavier feedstocks to be handled and transported easily because of their being blended with water.

Dwg.0/0

FS CPI EPI

FA AB; DCN

MC CPI: E11-D; E31-A02; H04-E06; H06-A03; L03-E04F; N02; N07-F

EPI: X16-C17

L5 ANSWER 8 OF 10 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

h e b c g c g b c g

e b

Full
Text

AN 2002-392730 [42] WPIDS
 CR 2000-283277 [24]; 2001-159404 [16]; 2001-588949 [66]; 2002-739803 [80]
 DNC C2002-110420
 TI Aqueous hydrocarbon **fuel emulsion** for fueling engine used in, e.g. automobiles, includes emulsifier comprising amino alkylphenol which is made by reacting alkylphenol, aldehyde and amine.
 DC A95 E19 H06
 IN FILIPPINI, B B; FORSBERG, J W; MCATEE, R J; MORETON, D J; STECKEL, T F
 PA (FILI-I) FILIPPINI B B; (FORS-I) FORSBERG J W; (MCAT-I) MCATEE R J; (MORE-I) MORETON D J; (STEC-I) STECKEL T F; (LUBR) LUBRIZOL CORP
 CYC 97
 PI US 2002020106 A1 20020221 (200242)* 14 C10L001-32
 WO 2003002693 A2 20030109 (200305) EN C10L001-00
 RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
 AU 2002303992 A1 20030303 (200452) C10L001-00
 ADT US 2002020106 A1 CIP of US 1999-349268 19990707, CIP of US 1999-390925 19990907, CIP of US 2000-483481 20000114, CIP of US 2001-755577 20010105, US 2001-892073 20010626; WO 2003002693 A2 WO 2002-US18405 20020611; AU 2002303992 A1 AU 2002-303992 20020611
 FDT AU 2002303992 A1 Based on WO 2003002693
 PRAI US 2001-892073 20010626; US 1999-349268 19990707;
 US 1999-390925 19990907; US 2000-483481 20000114;
 US 2001-755577 20010105
 IC ICM C10L001-00; C10L001-32
 AB US2002020106 A UPAB: 20040813
 NOVELTY - An aqueous hydrocarbon **fuel emulsion** comprises water, **fuel** and an emulsifier. The emulsifier comprises an amino alkylphenol, which is made by reacting alkylphenol, an aldehyde and an amine.
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a process for making an aqueous hydrocarbon **fuel** by mixing a liquid hydrocarbon **fuel** and at least one emulsifier to form a hydrocarbon **fuel** emulsifier mixture, and mixing the hydrocarbon **fuel** emulsifier mixture with water or water and ammonium nitrate under emulsification conditions to form the aqueous hydrocarbon **fuel** composition. The aqueous hydrocarbon **fuel** composition has a discontinuous phase having aqueous droplets of at most 1 mu m mean diameter.
 USE - For use in fueling an engine used in, e.g. automobiles, trucks or urban buses.
 ADVANTAGE - The inventive water in **fuel emulsion** is stable in storage. The emulsifier provides good stability for water **emulsified fuel**.
 Dwg.0/0
 FS CPI
 FA AB; GI; DCN
 MC CPI: A10-E01; A12-T03B; A12-W12C; E06-H; E07-A02C; E07-E03; E07-H; E10-A03; E10-A05; E10-A16B; E10-A22; E10-A25A2; E10-A25B2; E10-B01; E10-B03A; E10-B03B; E10-B03B1; E10-B04; E10-C02; E10-D01D; E10-E02U; E10-G03; E32-A02; E32-A04; E33; E34; H06-B

L5 ANSWER 9 OF 10 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 1991-030962 [05] WPIDS
 DNC C1991-013222
 TI New polymeric amino- or thio-alkylene O-substd. phenol(s) - have substd. aldehyde residues with para residue linked to poly amine, used as liq. hydrocarbon antioxidants.
 DC A95 E13 E14 H06
 IN BAGWELL, T V; WEERS, J J

PA (PETL) PETROLITE CORP
 CYC 9
 PI EP 410577 A 19910130 (199105)*
 R: BE DE ES FR GB IT NL
 CA 2019320 A 19910127 (199116)
 US 5047069 A 19910910 (199139)
 ADT EP 410577 A EP 1990-306874 19900622; US 5047069 A US 1990-601151 19901022
 PRAI US 1989-386337 19890727
 REP US 3269810; US 3877889; US 3935160; US 4217235
 IC C07C215-30; C07D295-12; C08G008-38; C08G012-46; C08G014-14; C10L001-22;
 C10L005-00
 AB EP 410577 A UPAB: 19930928
 Cpd. of formula (I): where X=N or S; R=H or a 1-5C alkyl; R1, R2=5-18C
 alkyl or cycloalkyl which may opt. contain a heteroatom, only one of R1
 and R2 being present if X=S, or may be combined to form a ring; R6=residue
 of 1-6C aldehyde; R7=residue of a polyamine of formula (II) where R3=8-50C
 alkyl, opt. contg. ether linkages; R4, R5=2-6C alkylene; a=0 or 1; and
 m=at least 3. Pref. prepg. comprises polymeric reaction of a phenol, or
 substd. with -CHR-XR1R2; a polyamine of formula (II); and a 1-6C aldehyde
 claimed. A Mannich base reaction may be carried out by various methods.
 Pref. aldehyde=formaldehyde.
 USE/ADVANTAGE - Antioxidant for liq. HCs (as 0.05-500 ppm) in
 compsns. contg. fuel, kerosene or diesel fuel (claimed). The cpds.
 prevent discolouration and sludge formation and sequester metals which can
 cause degradation.
 0/0
 FS CPI
 FA AB; DCN
 MC CPI: A05-B01; A12-T03A; E07-H; E10-B01D; H06-D01

L5 ANSWER 10 OF 10 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

Full
Text

AN 1989-250597 [35] WPIDS
 DNC C1989-111640
 TI Oil-soluble additive package - comprising lubricating oil ashless
 dispersants or viscosity index improver dispersant, demulsifier.
 DC A97 E19 H08 H09
 IN COLCORD, L J; EMERT, J; MERCHANT, P; PACANSKY, T J; WADDOUPS, M
 PA (ESSO) EXXON CHEM PATENTS INC
 CYC 18
 PI EP 330522 A 19890830 (198935)* EN 40
 R: AT BE CH DE ES FR GB IT LI NL SE
 AU 8930710 A 19890831 (198943)
 NO 8900785 A 19890918 (198943)
 DK 8900880 A 19890827 (198944)
 BR 8900859 A 19891017 (198947)
 JP 02229892 A 19900912 (199043)
 IL 89210 A 19920621 (199234) C10M149-22
 CA 1331599 C 19940823 (199435) C10M161-00
 EP 330522 B1 19941012 (199439) EN 47 C10M161-00
 R: AT BE CH DE ES FR GB IT LI NL SE
 DE 68918728 E 19941117 (199445) C10M161-00
 ES 2060752 T3 19941201 (199504) C10M161-00
 JP 2696380 B2 19980114 (199807) 33 C10M161-00
 ADT EP 330522 A EP 1989-301931 19890227; JP 02229892 A JP 1989-43363 19890227;
 IL 89210 A IL 1989-89210 19890207; CA 1331599 C CA 1989-590597 19890209;
 EP 330522 B1 EP 1989-301931 19890227; DE 68918728 E DE 1989-618728
 19890227, EP 1989-301931 19890227; ES 2060752 T3 EP 1989-301931 19890227;
 JP 2696380 B2 JP 1989-43363 19890227
 FDT DE 68918728 E Based on EP 330522; ES 2060752 T3 Based on EP 330522; JP
 2696380 B2 Previous Publ. JP 02229892
 PRAI US 1988-160690 19880226
 REP A3...9006; DE 1794133; EP 32617; EP 74618; No-SR.Pub; US 2996551; US

3429817; US 3509052; US 3511882

IC ICM C10M149-22; C10M161-00

ICS C10L001-18; C10L001-22; C10L001-24; C10M129-00; C10M133-52;
C10M135-10; C10M143-00; C10M145-02; C10M145-16; C10M145-26;
C10M149-12; C10M157-00; C10M157-04; C10M159-16; C10M165-00;
C10M167-00; C10N030-02

ICI C10N030:00, C10N030:02, C10N030:04, C10N040:25; C10M129:00, C10M129:95,
C10M133:52, C10M135:10, C10M135:24, C10M143:00, C10M145:02,
C10M145:04, C10M145:06, C10M145:26, C10M149:00, C10M159:16,
C10M161-00; C10M143:00, C10M145:02, C10M145:26, C10M145:34,
C10M145:36, C10M149:00, C10M165-00; C10M129:18, C10M133:52,
C10M135:24, C10M143:00, C10M145:02, C10M145:06, C10M145:26,
C10M149:00, C10M159:16, C10M161-

AB EP 330522 A UPAB: 19930923

Oil-soluble mixt useful as an oil additive comprises (A) a lubricating oil ashless additive comprising at least one of (1) ashless dispersants comprising (i) oil-soluble salts, amides, imides, oxazolines and/or esters of long chain hydrocarbon substd mono- and dicarboxylic acids or their anhydrides; (ii) long chain aliphatic hydrocarbon having a directly attached polyamine; and (iii) Mannich condensation prods of 1 mole of a long chain hydrocarbon substd phenol with 1-2.5 moles HCHO and 0.5-2 moles polyalkylene polyamine; where the long chain hydrocarbon gps above are polymers of 2-10C, eg 2-5C monoolefins, and have a no ave mol wt of at least 900.

(2) polymeric viscosity index improver dispersants including (i) polymers comprised of 4-24C unsatd esters of vinyl alcohol or 3-10C unsatd mono- or dicarboxylic acid with unsatd 4-20C N-contg monomers; (ii) polymers of 2-20C olefin with unsatd 3-10C mono- or dicarboxylic acid neutralised with amine, hydroxyamine or alcohol; and (iii) polymers of ethylene with a 3-20C olefin further reacted either by grafting 4-20C unsatd N-contg monomers or by grafting an unsatd acid onto the backbone and then reacting the carboxylic acid gps with amine, hydroxyamine or alcohol; or (3) mixts of (1) and (2); and (B) a demulsifier additive comprising the reaction prod of alkylane oxide and an adduct obtd by reacting a bisepoxide with a polyhydric alcohol.

USE/ADVANTAGE - Useful in **fuels**, eg middle distillates, in lubricating oil compsns used as crankcase lubricants for automobile, marine and railway engines; in power transmitting fluids, eg automatic transmission fluids, tractor fluids, hydraulic fluids, power steering fluids, etc; in gear lubricants, industrial oils, pump oils etc. Tendency to **emulsion** formation, esp in moist or humid conditions is reduced. storage stability of the package is increased by use of the compatibility additive.

0/0

FS CPI

FA AB

MC CPI: A12-T03B; A12-W02A; E07-E01; E07-H03; E10-A24; E10-A25; E10-B01A2;
E10-B01A4; E10-B01E; E10-D03; E10-E04J; E10-G02G; E10-G02H; H06-D;
H07-G08; H08-D05

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